

REMARKS

Claims 1-6 are pending and rejected in the present application. Claims 7 and 8 are added hereby.

Responsive to the rejection of claims 1 and 5-6 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,453,863 (West, et al.), Applicant
5 respectfully traverses.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in
10 as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Applicant submits that the cited reference does not disclose each and every element as set forth in the claims, and that therefore the cited reference does not anticipate those claims.

15 More particularly, claim 1 recites in part "means for applying at least one voltage pulse to the electrodes which cause the direct change of the cholesteric liquid crystals from any initial state to a particular state within a selected gray scale". (*Emphasis Added*). Applicant submits that West, et al., does not disclose such a limitation, and therefore does not anticipate claim 1.

The display of West, et al., has the gray scale response shown by curves A and B of Fig. 5 therein. As is shown below, curve B is evidence that the device of West, et al., cannot switch directly from the scattering state to a gray scale state.

5 Curve A is the response of the cell when the material is initially in the reflecting (planar texture) state. Curve B shows the response of the cell when the material is initially in the focal conic or scattering state. The transition of curve B (i.e., display initially in the scattering state) through the gray stage occurs almost instantly and the slope of the transition portion of curve B is practically
10 vertical, whereas the transition of curve A (i.e., display initially in the reflecting state) through the gray stage is relatively gradual and the slope of the transition portion of curve A is significantly less vertical.

 West, et al, itself characterizes the above-discussed gray scale response as of practical use only when the material is first placed into the planar texture. It
15 can be seen (from Fig. 5) that the linear relationship of the gray scale to applied voltage is much more pronounced, and the gray scale more gradual, when the material starts from the planar texture. Accordingly, most practical applications of the gray scale phenomenon will likely employ the material starting from the planar texture. (*column 12, lines 49-54*). Thus, West, et al., explicitly discloses
20 that any practical application of the gray scale will require the display to first be placed into the planar texture.

Because the slope of curve B is practically vertical, a small change in applied voltage causes the display to essentially switch from the scattering state to the reflective state. The display virtually bypasses or races through the gray stage in a substantially uncontrolled manner. In other words, with the display initially in the scattering state its sensitivity to applied voltage is so great that placement of the display into a desired gray state is rendered uncontrollable and/or unpredictable. The display of West, et al., is not able to directly change in a controlled manner from the scattering state to a desired gray scale state. Thus, West, et al., fails to disclose or suggest means for applying at least one voltage pulse to the electrodes which cause the direct change of the cholesteric liquid crystals from any initial state to a particular state within a selected gray scale, as recited in part by claim 1.

Claim 1 further recites in part "a layer including a polymeric host material". (*Emphasis Added*). Conversely, West, et al., explicitly discloses that the liquid crystal display material does not contain any polymer. (*column 7, lines 11-14*). Thus, West, et al., fails to disclose a layer including a polymeric host material as recited in part by claim 1.

Since West, et al., does not disclose each and every element as set forth in claim 1, Applicant submits that the claim is not anticipated thereby.

Accordingly, Applicant respectfully requests withdrawal of the rejection and allowance of claim 1.

Claim 5, similarly to claim 1, recites in part “a layer including a polymeric host material” and “means for applying the drive signals in the form of voltage pulses to the electrodes which cause the direct change of the cholesteric liquid crystals from any initial state to a particular state within a selected gray scale”.

5 (Emphasis Added). Thus, in that respect, claim 5 recites subject matter that is substantially similar to the subject matter recited in part by claim 1. For the same reasons given above in regard to claim 1, Applicant submits that claim 5 is also in condition for allowance. Accordingly, Applicant respectfully requests withdrawal of the rejection and allowance of claim 5.

10 Claim 6 recites in part “a plurality of displays in accordance with claim 1”. Thus, claim 6 recites subject matter that is substantially similar to the subject matter recited in part by claim 1. For the same reasons given above in regard to claim 1, Applicant submits that claim 6 is also in condition for allowance. Accordingly, Applicant respectfully requests withdrawal of the rejection and
15 allowance of claim 6.

Claims 1-6 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. (Stephenson, et al). Stephenson, et al., however fails to disclose “means for applying at least one voltage pulse to the electrodes which cause the direct change of the cholesteric liquid crystals from any initial state to a particular
20 state within a selected gray scale”, as recited in part by claims 1 and 2. (Emphasis Added). Since Stephenson, et al., does not disclose each and every

element as set forth in claim 1 or 2, Applicant submits the claims are not anticipated thereby. Accordingly, Applicant respectfully requests withdrawal of the rejection and allowance of claims 1 and 2.

Nor does Stephenson, et al., disclose "means for applying a series of
5 voltage pulses to the electrodes having a predetermined . . . amplitude being selected that will cause the cholesteric liquid crystals to be in a particular state within a selected gray scale irrespective of the initial state of the cholesteric liquid crystals", as recited in part by claim 3. (*Emphasis Added*). Since Stephenson, et al., does not disclose each and every element as set forth in claim 3, Applicant
10 submits the claim is not anticipated thereby. Accordingly, Applicant respectfully requests withdrawal of the rejection and allowance of claim 3.

Further, Stephenson, et al, fails to disclose "means for applying a series of voltage pulses to the rows and columns of the electrodes which cause the direct change of the cholesteric liquid crystals in the pixels from any initial state to a
15 particular state within a selected gray scale", as recited in part by claim 4. (*Emphasis Added*). Since Stephenson, et al., does not disclose each and every element as set forth in claim 4, Applicant submits the claim is not anticipated thereby. Accordingly, Applicant respectfully requests withdrawal of the rejection and allowance of claim 4.

20 Moreover, Stephenson, et al, fails to disclose "wherein for a given set of drive signals, the cholesteric material changing to a state between the focal conic

and planar states irrespective of the initial state of the material", as recited in part by claim 5. (*Emphasis Added*). Since Stephenson, et al., does not disclose each and every element as set forth in claim 5, Applicant submits the claim is not anticipated thereby. Accordingly, Applicant respectfully requests withdrawal of
5 the rejection and allowance of claim 5.

Lastly, Stephenson, et al., claim 6 recites in part "a color display having a plurality of displays in accordance with claim 1". Thus, for the same reasons given hereinabove with regard to claim 1, Applicant submits that claim 6 is also in condition for allowance and respectfully requests same.

10 Claims 7 and 8 have been added hereby to further protect the patentable subject matter of the present invention. Claim 7 recites in part "said layer having a reflectance that varies continuously from a minimum value to a maximum value in response to a range of voltages applied by said means for applying at least one voltage pulse and independent of an initial state of said layer". Claim 8
15 recites in part "said layer having a common optical response curve that varies continuously from a minimum value to a maximum value within a range of applied voltage and independently of an initial state of said layer".

Applicant respectfully directs the attention of the Examiner to the first full paragraph of page 11 and Fig. 6 of the present Specification. Therein, it is stated
20 that both planar state 22 and focal conic state 24 share a common optical response within the voltage range between voltages V3 and V4. In this range,

the reflectance varies from a minimum value to a maximum value in a continuous manner and does so independent of the initial state of the polymeric formulation.

Thus, the subject matter to which new claims 7 and 8 are directed is not new matter. Further, Applicant submits that the subject matter of added claims 7 and
5 8 is not taught, disclosed or suggested by the cited references. Accordingly, Applicant submits that claims 7 and 8 are in condition for allowance, and respectfully request same.

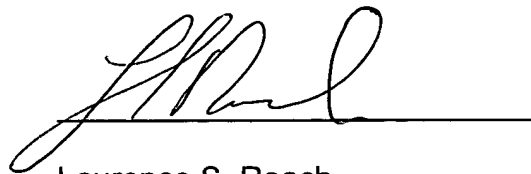
For all the foregoing reasons, Applicant submits that the pending claims are in condition for allowance. Therefore, Applicant respectfully requests
10 withdrawal of all rejections and allowance of the claims.

The Examiner is invited to telephone the undersigned in regard to this Amendment and the above identified application.

Respectfully submitted,

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Date



Laurence S. Roach
Registration No. 45,044

Laurence S. Roach, Esq.
E-mail : LSRoach@rochester.rr.com

Law Firm of Thomas R. FitzGerald
16 E. Main Street, Suite 210
Rochester, New York 14614-1803
Telephone : (585) 454-2250
Fax : (585) 454-6364